Road to Wellness: Improving Quality of Life Through Rehabilitation

Arash Asher, MD
Director, Cancer Survivorship & Rehabilitation
Cedars-Sinai Medical Center
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Common Symptoms During Cancer Treatment

- Pain
- Nausea
- **Fatigue**
- Appetite problems
- Low mood
- Anxiety / worry
- Breathing discomfort/difficulties / cough
- Fever, sweats, hot flashes

- Constipation
- Diarrhea
- Other gastrointestinal distress: dry mouth, taste changes, etc
- Nighttime sleep problems
- Daytime sleepiness
- Concentration / thinking / memory
Symptom Management Pearl

• Symptoms cannot be objectively tested!

• You must COMMUNICATE the symptoms to your team

• There is no correlation between the number or intensity of treatment-related side effects and the clinical outcome

• When in doubt, report the symptoms, even if you’re not asked!
EDMONTON SYMPTOM ASSESSMENT SYSTEM (ESAS)

PLEASE CIRCLE THE NUMBER THAT BEST DESCRIBES YOUR SYMPTOMS IN THE LAST 24 HOURS:

- NO PAIN
  - 0
  - 1
  - 2
  - 3
  - 4
  - 5
  - 6
  - 7
  - 8
  - 9
  - 10
  - WORST PAIN IMAGINABLE

- NO FATIGUE
  - 0
  - 1
  - 2
  - 3
  - 4
  - 5
  - 6
  - 7
  - 8
  - 9
  - 10
  - WORST FATIGUE IMAGINABLE

- NO NAUSEA
  - 0
  - 1
  - 2
  - 3
  - 4
  - 5
  - 6
  - 7
  - 8
  - 9
  - 10
  - WORST NAUSEA IMAGINABLE

- NO DEPRESSION
  - 0
  - 1
  - 2
  - 3
  - 4
  - 5
  - 6
  - 7
  - 8
  - 9
  - 10
  - WORST DEPRESSION IMAGINABLE

- NO ANXIETY
  - 0
  - 1
  - 2
  - 3
  - 4
  - 5
  - 6
  - 7
  - 8
  - 9
  - 10
  - WORST ANXIETY IMAGINABLE

- NO DROWSINESS
  - 0
  - 1
  - 2
  - 3
  - 4
  - 5
  - 6
  - 7
  - 8
  - 9
  - 10
  - WORST DROWSINESS IMAGINABLE

- NO SHORTNESS OF BREATH
  - 0
  - 1
  - 2
  - 3
  - 4
  - 5
  - 6
  - 7
  - 8
  - 9
  - 10
  - WORST SHORTNESS OF BREATH IMAGINABLE

- BEST SLEEP
  - 0
  - 1
  - 2
  - 3
  - 4
  - 5
  - 6
  - 7
  - 8
  - 9
  - 10
  - WORST SLEEP IMAGINABLE

- BEST APPETITE
  - 0
  - 1
  - 2
  - 3
  - 4
  - 5
  - 6
  - 7
  - 8
  - 9
  - 10
  - WORST APPETITE IMAGINABLE

- BEST FEELING OF WELL BEING
  - 0
  - 1
  - 2
  - 3
  - 4
  - 5
  - 6
  - 7
  - 8
  - 9
  - 10
  - WORST FEELING OF WELL BEING

PERSON COMPLETING FORM (PRINT) __________________________ DATE ___________ TIME ____________ AM / PM

○ PATIENT
○ SPOUSE/CAREGIVER
○ CP
○ RN
Cancer-related Fatigue

• Common!
• Profound effects on quality of life:
  o Physical
  o Psychosocial
  o Economic/occupational
• Consistently underreported and overlooked as a potentially treatable symptom
What is Cancer-Related Fatigue?

• Healthy fatigue = fatigue eventually relieved by rest and sleep
• Cancer fatigue:
  o Persistent, subjective sense of physical, emotional, and/or cognitive tiredness or exhaustion
  o Related to cancer or its treatment
  o Not proportional to recent activity
  o Interferes with usual functioning
Cancer-Related Fatigue

- Direct Brain Damage (Radiation, chemo)
- Genetic Vulnerability
- Hormonal changes (premature menopause)
- Other Medical Problems (Hypothyroidism, anemia, COPD, etc.)
- Pain
- Medication Side Effects
- Poor Nutrition
- Chronic Stress & Isolation
- Depression & Anxiety
- Poor Sleep
- Loss of muscle mass and inactivity
- Cytokines
What are cytokines?
Direct Brain Damage (Radiation, chemo)

Genetic Vulnerability

Hormonal changes (premature menopause)

Other Medical Problems (Hypothyroidism, anemia, COPD, etc.)

Pain

Medication Side Effects

Cytokines

Loss of muscle mass and inactivity

Poor Nutrition

Chronic Stress & Isolation

Depression & Anxiety

Poor Sleep

CANCER-RELATED FATIGUE
MORE ENERGY
EXERCISE
IMPROVED ENDURANCE
DECONDITIONING

INACTIVITY
Exercise is Medicine:
Exercise can reduce inflammation
Importance of Exercise

- Brain
- Muscle
- Bone
- Balance
Association between 6-minute walk distance (SMWD) and survival.

Ruden E et al. JCO 2011;29:2918-2923
Association between exercise behaviour (metabolic equivalent [MET]–h/wk) and survival.

Ruden E et al. JCO 2011;29:2918-2923
What is the right amount of exercise for me?

“Try to get less exercise.”
inactive

(+ Obesity)

Systemic, low-grade inflammation (IL-6, TNFα, IL-1β, others)

+ lipid accumulation and other factors

Increased risk for many chronic diseases

PGC-1α

→

active

Myokine secretion (IL-6, IL-8, IL-15, others)

Beneficial effects of exercise?

PGC-1α

→

extreme performance

Ultramarathon

Massive fibre damage, inflammation (TNFα, others)

Temporary immunosuppression
Exercise Dose and the Immune System

Exercise Dose

- Sedentary
- Moderate
- Intense

Immune Function

Exhibit graph showing the relationship between exercise dose and immune function.
### Tips on Exercise Level and Intensity
#### Modified BORG Scale

<table>
<thead>
<tr>
<th>Rating</th>
<th>Perceived Rate of Exertion</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>Nothing at all</td>
</tr>
<tr>
<td>0.5</td>
<td>Very, very light</td>
</tr>
<tr>
<td>1</td>
<td>Very light</td>
</tr>
<tr>
<td>2</td>
<td>Light</td>
</tr>
<tr>
<td>3</td>
<td>Moderate</td>
</tr>
<tr>
<td>4</td>
<td>Somewhat severe</td>
</tr>
<tr>
<td>5</td>
<td>Severe</td>
</tr>
<tr>
<td>6</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Very severe</td>
</tr>
<tr>
<td>8</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>Very, very severe</td>
</tr>
<tr>
<td>10</td>
<td>Maximum</td>
</tr>
</tbody>
</table>

**“SING-TALK” TEST**
Exercises helpful for Balance

- Tai Chi
- Qi Gong
- Yoga
- Balancing exercises with physical therapy
Importance of Exercise for the Brain

- Mood & Depression
- Cognition
- Sleep
Fig. 1. Effect sizes for the different process-task types reflecting the four theoretical hypotheses concerning the process-based specificity of the benefits of fitness training. Parenthetical notations on the x-axis indicate the number of effect sizes contributing to the point estimates for each task type in the exercise (E) and nonexercise (C) groups. Error bars show standard errors.
Hippocampus shrinks in late adulthood, leading to impaired memory.

Randomized trial of 120 older adults (no cancer) to exercise and stretching.

Also increased levels of BDNF.
Sleep & Exercise

• Better sleep and more alert during day if 150 min of moderate exercise/week

• Between 4 and 7 PM may be optimal to help with sleep
  o A drop in body temperature aids sound sleep.
  o Time your exercise five to six hours before bedtime.

• Stick with it! Participants in studies did not report improved sleep until they had been exercising for 16 weeks.

Loprinzi PD, et. al., Mental Health and Physical Activity, 2011
Can we get our patients to exercise?

Smoke enemas used for cancer, “female diseases”, stomach cramps, headaches, intestinal worms, etc..
The brain can change its own structure and function through thought and activity
Other treatments

• Acupuncture
• Yoga
• Cognitive Behavioral Therapy
• Meditation
• Hypnosis
• Progressive muscle relaxation
**Tips to conserve your energy:**

- Ask others to help you (delegate tasks)
- Keep a list of tasks by the phone for friends who call to help
- Set realistic goals for what you want to accomplish
- Identify the time of day when you have the most energy and consider scheduling or doing things during this window
Cancer Exercise Recovery Program

• Comprehensive fitness assessment
  o Body composition
  o Cardiovascular endurance
  o Muscular endurance and strength
  o Balance, flexibility, range of motion

• Individualized exercise prescription
  o Mode
  o Frequency
  o Intensity
  o Duration
  o Progression

• Exercise Intervention

• Reassessment and Home Exercise Program
Thank you

Arash Asher
arash.asher@cshs.org
310-423-2111